

Jacob K. Javits Center Green Roof Monitoring Study

Joseph Cataldo, PhD

This study represents the environmental performance of a green roof installed on the Jacob K. Javits Convention Center, located on the west side of Manhattan, NYC. Through a joint research effort, Drexel University & Cooper Union designed and installed a unique monitoring system, allowing investigation into both the roof's climate and hydrologic impacts.



The monitoring apparatus was integrated into the green roof as the roof was being installed, over the course of about 1.5 years.

The overarching goal of the monitoring campaign was to investigate how the green roof coverage would impact both the hydraulic properties of the roof (e.g. how much runoff is captured by the greened areas, what is the effect on the discharge hydrograph, etc.) and the microclimate of the surrounding environment (e.g. what is the effect of the roof coverage on the temperature distribution above and below the roof). To this end, four (4) weather stations, three (3) weighing lysimeters, three (3) Parshall flumes, and fifteen (15) soil sensors were acquired, and positioned strategically on and around the green roof, enabling remote, real-time monitoring of environmental conditions. In addition, one (1) infrared camera is being used to image thermal properties on and under the roof surface.